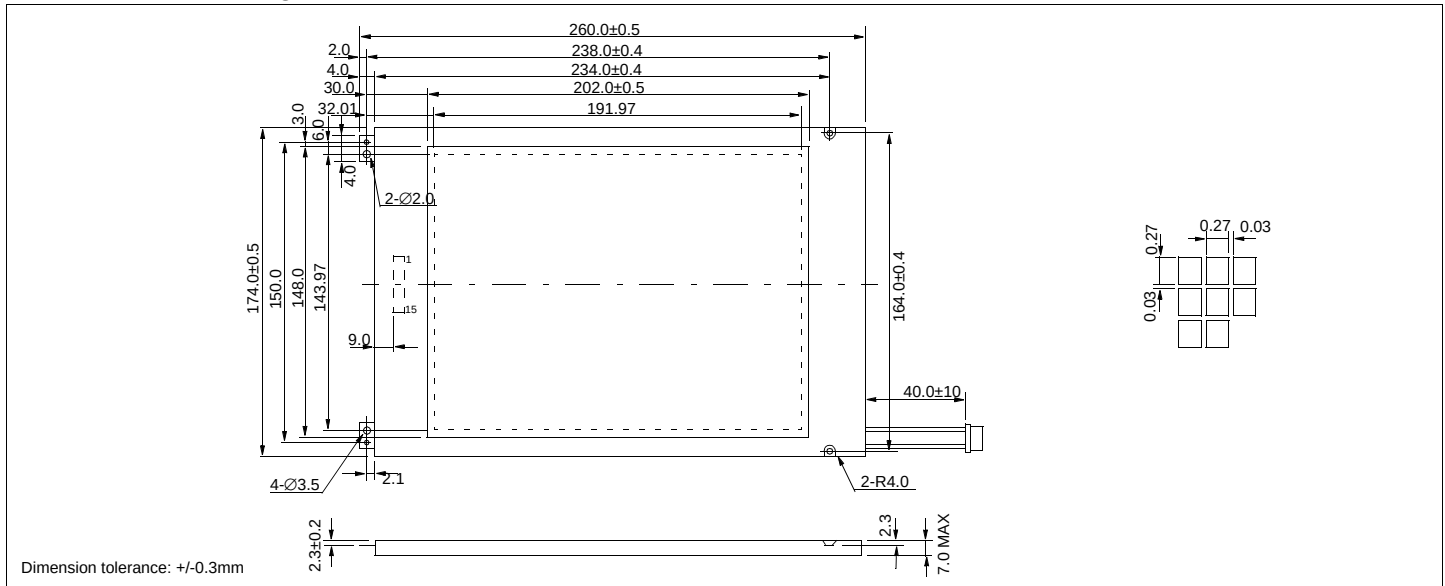


HDM 6448

Dimensional Drawing

640 X 480 9.5" VGA Monochrome



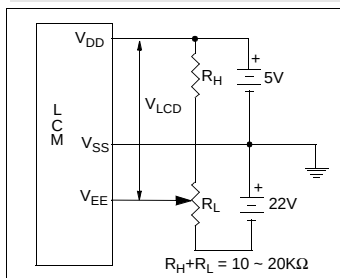
Features

Backlight.....CCFL
Options.....Black and White FSTN
Built-in Controller.....None

Physical Data

Module Size.....260.0W x 174.0H x 7.0T mm
Viewing Area Size.....191.9W x 144.0H mm
Dot Pitch.....0.30W x 0.30H mm
Dot Size.....0.27W x 0.27H mm
Weight.....315g

Power Supply



Absolute Maximum Ratings

PARAMETER	SYMBOL	MIN	MAX	UNIT
SUPPLY VOLTAGE	$V_{DD}-V_{SS}$	0	7.0	V
SUPPLY VOLTAGE FOR LCD	$V_{DD}-V_{EE}$	0	29.0	V
INPUT VOLTAGE	V_{IN}	-0.3	$V_{DD}+0.3$	V
CCFL OPERATING VOLTAGE	V_{FL}	-	1500	Vrms
CCFL OPERATING CURRENT	I_{FL}	-	10	mA
OPERATING TEMPERATURE	T_{OP}	0	50	°C
STORAGE TEMPERATURE	T_{STG}	-20	60	°C
HUMIDITY (NO CONDENSATION)	-	10	90	%RH

Pin Connections

PIN NO.	SYMBOL	LEVEL	FUNCTION
DATA CONNECTOR			
1	FP	H	First Line Marker
2	LP	H/L	Data Latch
3	SCP	H/L	Shift clock
4	DISPOFF	H/L	H=On, L=Off
5	V_{DD}	5V	Power supply for logic
6	V_{SS}	0V	Ground
7	V_{EE}	-	Operating voltage for LC
8	UD0	H/L	Upper screen data input
9	UD1	H/L	Upper screen data input
10	UD2	H/L	Upper screen data input
11	UD3	H/L	Upper screen data input
12	LD0	H/L	Lower screen data input
13	LD1	H/L	Lower screen data input
14	LD2	H/L	Lower screen data input
15	LD3	H/L	Lower screen data input
CCFL CONNECTOR			
1	V_{FL}	-	Power supply for CCFL
2	NC	-	No Connection
3	NC	-	No Connection
4	V_{FLG}	-	Ground

Electrical Characteristics (VDD=5.0±0.25V 25°C)

PARAMETER	SYM	CONDITION	MIN	TYP	MAX	UNIT
SUPPLY VOLTAGE	V_{DD}	-	4.75	5.0	5.25	V
	$-V_{EE}$	-	17.5	18.5	19.5	V
POWER SUPPLY CURRENT	I_{DD}	$V_{DD}=5.0V$	-	8.0	18	mA
	$-I_{EE}$	$V_{EE}=-18.5V$	-	6.0	13.5	mA
INPUT HIGH VOLTAGE	V_{IH}	-	4.5	-	V_{DD}	V
INPUT LOW VOLTAGE	V_{IL}	-	0.3	-	0.5	V
CCFL OP. VOLTAGE	V_{FL}	$I_{FL}=5\text{mA}$	200	360	600	Vrms
CCFL OP. CURRENT	I_{FL}	$V_{FL}=360V$	3.0	5.0	6.0	mA
CCFL START VOLTAGE	V_{FLS}	$T_a=0^\circ\text{C}$	900	-	-	Vrms
CCFL FREQUENCY	f_{FL}	-	20	-	-	kHz
FRAME FREQUENCY	f_{FP}	-	65	72	80	Hz
DRIVE METHOD	1/240 DUTY					